

DRAFT CHAPTER 7.X.

WELFARE OF WORKING EQUIDS

Article 7.X.1.

~~Preamble~~ Introduction

In many countries, working equids, used for transport and traction, contribute directly and indirectly to households' livelihoods and benefit communities as a whole. Working equids may be of direct or indirect use in production and commercial activities.

~~More specifically~~ Specifically, they contribute to agricultural production and food security by transporting, for instance, water and fodder for other livestock, firewood and other daily needs to the homestead, and agricultural products to the market; ~~they~~ They provide draught power for agricultural work ~~such as ploughing, harrowing and seeding, weeding~~ and transport; ~~they~~ They may supply manure ~~and, in some cases, milk, meat and hides~~ for household use or income (FAO, 2014). Working equids may be of direct or indirect use in production and commercial activities.

~~Working equids may be of direct or indirect use in commercial activities such as taxi services, construction, tourism and transporting goods. They can also be rented out and provide an income for the equid's owner and a small business opportunity for the hirer (FAO, 2014). In the case of the latter there can potentially be an increased animal welfare risk.~~

~~Finally, working equids relieve the physical burden of women and children and less able people in transport of domestic needs; they may strengthen social relationships within extended families and communities through sharing working animals at times of need, for example during ploughing and harvesting seasons. They transport people to health centres and medical supplies to remote areas and may also form an important part of weddings or ceremonial occasions (FAO, 2014) (The Brooke, 2014).~~

The welfare of these working equids is often poor ~~and this may be as a result of~~ because their ownership owners lack by poor and marginalised communities who are unable to sufficiently sufficient resources to meet their needs. or who have insufficient knowledge of the appropriate care of equids. Certain working contexts, such as working in construction industries or in harsh environments, may present a particular risk to their welfare such as working within construction industries (e.g. brick kilns).

Article 7.X.2.

~~Scope and definition~~

This chapter applies to the following working animals: horses, donkeys and mules and donkeys that ~~which~~ are destined, used for and or retired from ~~for~~ traction and, transport, for and generation of income generation as well as domestic use (non-commercial work). Equids used in sports or competitions, leisure riding activities, production of biopharmaceuticals or research are excluded.

For the purposes of this chapter, harness means all parts of the driving harness, saddle, bridle and bit that are used work to control the working equid, act as a braking system when pulling a cart, hold loads in place and transfer power to attached carts or agricultural implements.

Article 7.X.3.

Responsibilities and competencies

All these organisations with a defined responsibility responsibilities as outlined below should have personnel with the requisite knowledge and skill to perform their duties.

1. Veterinary Authority

The *Veterinary Authority* is the responsible for implementation of animal health and welfare legislations, policies and programmes. However, ~~in~~ in the case of working equids, the responsibility may be shared with other government agencies, and institutions and relevant stakeholders as listed below and including but is not limited to those responsible for agriculture and transport.

2. Other government agencies

The responsibilities of other government agencies will depend on the range of working equid uses and contexts.

For example those agencies responsible for regulating industrial and construction activities brick kilns, whether for environmental or labour compliance, may also have a responsibility for the working equids involved in the industry.

Particularly in urban areas, the transport or other responsible agency may have legislative authority in dealing with traffic circulation and have a role to play in ensuring a safe environment for working equids as well as other road users.

Environmental protection agencies may regulate and enforce measures to prevent working equids from accessing rubbish or garbage sites or other potential sources of contamination (such as agricultural chemicals or cadavers).

The agency responsible for public health may have legislative authority in dealing with *zoonoses* ~~such as~~ glanders.

Education authorities have a responsibility in schools and through agricultural, *veterinary para-professional* ~~para-veterinary~~ and veterinary training institutions; appropriate Appropriate education and training ~~can~~ will prevent many welfare problems ~~from occurring~~.

3. Local government authorities

Local government authorities are responsible for many services and programmes that relate to health, safety and public good within their jurisdiction. In many countries the legislative framework gives authority to local government agencies with regard to aspects of transport, agriculture, public health, environmental health and inspection, and compliance activities including those in relation to animal health measures quarantine and responsibility for abandoned and stray animals.

In many countries local government agencies are responsible for the development and enforcement of legislation relating to equine drawn carts and carried loads in traffic, *animal identification* (registration), licensing and disposal of dead animals.

4. Private sector veterinarians

~~The private~~ Private sector veterinarians are responsible for providing services and advice to working equid owners or handlers and can play an important role in *disease surveillance* because they may be the first to see an equid suffering from a *notifiable disease*. ~~The private sector veterinarians should follow the procedure established by the Veterinary Authority for reporting a suspected notifiable disease. Private sector veterinarians. They~~ may also play a role (often in liaison with the police or other local authorities) in dealing with cases of neglect that can lead to welfare problems.

~~The private veterinarians should have competence in clinical examination, diagnosis and, treatment, preventive procedures such as vaccination (which may include contracted services from the government in the case of certain diseases), animal identification, nutrition, and management advice provision, surgical procedures and euthanasia. Two-way communication between the private sector veterinarians and Veterinary Authority, often via the medium of a veterinary professional organisation, is important and the Veterinary Authority is responsible for setting up appropriate mechanisms for this interaction.~~

Private veterinarians may also have a responsibility in supervising and coordination of *veterinary para-professionals* involved in delivering animal health services.

5. Non-governmental organisations

Relevant non-governmental organisations (NGOs) and intergovernmental organisations should understand the role of working equids and may help to collect and provide information to support policy formulation, to advocate ~~for~~ and promote health and welfare of working equids.

Local NGOs are potential partners of the *Veterinary Services* in the development and implementation of working equid health and welfare programmes.

NGOs may also contribute, together with *veterinarians* and *Competent Authorities*, in educating the public in the importance of *animal welfare* of working equids.

6. Working equid owners and users

Owners and users are ultimately responsible for the welfare of their working equids by ensuring their animals' "five freedoms" (Article 7.1.2), ~~should ensure that the welfare of the equid, including behavioural needs, is respected and the equid is protected, as far as possible, from injuries, harm, neglect and infectious diseases (e.g. through vaccination and parasite control). Provision of appropriate feed, water and shelter is also a responsibility of the equid owner.~~

Article 7.X.4.

Criteria or measurables for the welfare of working equids

~~Although there is no single measure of animal welfare, focusing on issues that improve animal health and cater for the needs of working equids will bring about improvements in animal welfare in practice and ensure that legislators can make evidence-based decisions (Dawkins, 2006).~~

The following outcome-based measurables can be useful indicators of *animal welfare*. The use of these indicators and the appropriate thresholds should be adapted to the different situations where working equids are used.

1. Behaviour

Presence or absence of certain equine behaviours could indicate an *animal welfare* problem, including fear, depression or pain. ~~Non-specific behavioural indicators of pain include aggression, restlessness, agitation, a reluctance to move and a lowered head carriage. Other behaviours have been well documented (at least for horses) for abdominal, limb and dental pain (Ashley *et al.*, 2005). Behaviours differ between donkeys, horses, donkeys and mules and a good understanding of normal behaviour of each species is required.~~

Some behaviours may not be uniquely indicative of one type of problem; they may be exhibited for a variety of different welfare causes. Depression, apathy, dullness and lethargy in equids that are usually normally active and alert can be indicative of a welfare problem. Changes in eating or drinking patterns may indicate a welfare problem, especially a decreased feed intake. This might also be an indicator of dental problems, poor feed quality or even feed contamination.

Behaviours indicating discomfort or pain:

- = Head pressing, teeth grinding, grunting, food dropping, and inability to eat normally. Such behaviours may indicate disease process or pain.
- = Depression, circling, foot pawing, flank watching, inability to stand up, rolling. Such behaviour may indicate abdominal or other discomfort.
- = Disturbance of ground or bedding. Such behaviours may indicate disease process, abdominal pain, malnutrition.
- = Weight shifting, foot pawing, reluctance to move or abnormal movement. Such behaviours may indicate leg, foot, spinal or abdominal pain.
- = Head shaking or avoidance of head contact. Such behaviours may indicate head, ear or ocular discomfort.
- = Itching, rubbing, self-inflicted abrasions. Such behaviours may indicate skin problems, or parasites.
- = Restlessness, agitation and anxiety, rigid stance and reluctance to move, lowered head carriage, fixed stare and dilated nostrils, clenched jaw, aggression and reluctance to be handled, may indicate non-specific pain in horses. In donkeys, these behaviours are more subtle and may not be recognised;
- = Vocalisation, rolling, kicking at abdomen, flank watching and stretching may indicate abdominal pain in horses. In donkeys, dullness and depression;
- = Weight-shifting, limb guarding, abnormal weight distribution, pointing, hanging and rotating limbs, abnormal movement and reluctance to move may indicate limb and foot pain in horses. These signs are more subtle in donkeys, although repeated episodes of lying down are reportedly more indicative;
- = Headshaking, abnormal bit behaviour, altered eating, anorexia and quidding may indicate head and dental pain (Ashley *et al.*, 2005).

Behaviours indicating fear or anxiety:

- = Unusual Avoidance avoidance of humans, especially when handlers or objects associated with their handling come close;
- = A reluctance by the working equids to engage in their use for traction or transport or even a cessation and aggressive behaviour, especially when fitting equipment or loading is undertaken.

Behaviours indicating stress:

- = Oral stereotypies: crib biting, aerophagia ("wind sucking");
- = Locomotive stereotypies: stable walking, weaving.

2. Morbidity

Morbidity, including incidence of *disease*, lameness, injuries or post-procedural complications, may be a direct or indirect indicator of the *animal welfare* status.

Understanding the aetiology of the *disease* or syndrome is important for detecting potential *animal welfare* problems. Scoring systems, such as those used to score lameness and body condition, can provide additional information.

~~Post-mortem examination is useful to establish causes of death. Both clinical and post-mortem pathology may be utilised as indicators of *disease*, injuries and other problems that may compromise *animal welfare*.~~

3. Mortality

Mortality, like morbidity, may be a direct or indirect indicator of the *animal welfare* status. Depending on the context, causes of mortality should be investigated including as well as temporal and spatial patterns of mortality and possible relationship associated with husbandry and handling practices. Necropsy is useful in establishing the cause of death.

4. Body condition

~~Poor or changing body condition may be an indicator of compromised animal health and welfare and scoring systems help provide objectivity (Kay G., Pearson R.A. & Ouassat M. (2004); Pearson R. A. & Ouassat M., 1996; Carroll C. L. & Huntington P. J., 1988).~~

4.5. Body condition and Physical physical appearance

Poor or changing body condition or physical appearance may be an indicator of compromised animal welfare and health and scoring systems help to provide objectivity (Kay G., Pearson R.A. & Ouassat M. (2004); Pearson R. A. & Ouassat M., 1996; Carroll C. L. & Huntington P. J., 1988).

Observation of physical appearance ~~will~~ often provides an indication of animal welfare and health. Attributes of physical appearance that may indicate compromised welfare include:

- feet or limb abnormalities,
- wounds or injuries,
- dehydration ~~(measured by drinking behaviour)~~ or signs of heat stress,
- abnormal discharges,
- presence of parasites,
- abnormal coat, texture or hair loss,
- excessive soiling with faeces, mud or dirt,
- ~~emaciation~~ emaciation,
- ~~abnormal behaviour, postures and gait.~~

56. Handling responses

Poor human-animal interactions can lead to or be caused by improper handling. This may include inappropriate ~~poor~~ bad driving and inappropriate restraint methods, such as or the inappropriate ~~mis~~use of whips and sticks, and can result in fear and distress.

Indicators ~~could~~ include:

- aversive or apathetic responses to fitting of equipment and loads,
- defensive responses from the equid to the owner or user such as threatening facial expressions, kicking, biting and avoiding human contact.
- ~~injuries to animals resulting from improper handling.~~

67. Complications due to management practices

Some management practices, such as castration and hoof care, are commonly performed in working equids ~~for improving animal performance, to facilitating~~ facilitate handling; and ~~improving~~ improve human safety and *animal welfare*.

Working equids are shod for two main reasons; to prevent hoof wear and to improve performance. Many equids cope well without shoes and, if they are coping well, are best unshod. However, poor hoof care and farriery predisposes the working equid to injury and infection, and can result in changes to the size, shape and function of the hoof. Untreated abnormalities of the foot can create long-term problems in other parts of the leg and body due to change in gait and weight bearing.

~~They should be accomplished quickly, expertly and with the proper equipment. If these~~ such management practices ~~procedures~~ such as these are not performed properly, *animal welfare* ~~can~~ may be compromised.

Indicators of such problems ~~could~~ include:

- post-procedure *infection* and swelling;
- post-procedure lameness;
- myiasis;
- behaviour indicating pain or fear;
- mortality.

It is important to note that some “~~management~~ practices” are not based on evidence and are inherently bad for welfare. Evidence of firing, nasal slitting, lampas cutting and harmful substances applied to ~~put on~~ wounds should be identified as indicators of poor welfare.

78. Lameness (Gait)

Traditionally, lameness has been defined as any alteration of the horse's gait. In addition, lameness can be manifest in such ways as a change in attitude or performance. These abnormalities can be caused by pain in the neck, withers, shoulders, back, loin, hips, legs or feet. Identifying the source of the problem is essential ~~to~~ for proper treatment (AAEP, 2014). Lameness or gait abnormalities are the most common ~~presenting~~ signs of working equids ~~to~~ seen by veterinarians. Various scoring systems are available to assess the degree of lameness ~~Ninety to ninety nine per cent of working equids may have hoof and limb problems (Burn et al., 2010; Pritchard et al., 2005).~~

Indicators of such problems ~~could~~ include:

- hoof conformation abnormalities;
- unequal weight bearing;
- hoof and pastern axis and angles;
- lameness grades: there are various gait or lameness scoring systems; an example is one developed by the American Association of Equine Practitioners (AAEP).

~~The scale ranges from zero to five, with zero being no perceptible lameness, and five being most extreme:~~

~~0: Lameness not perceptible under any circumstances.~~

~~1: Lameness is difficult to observe and is not consistently apparent, regardless of circumstances (e.g. under saddle, circling, inclines, hard surface, etc.).~~

~~2: Lameness is difficult to observe at a walk or when trotting in a straight line but consistently apparent under certain circumstances (e.g. weight carrying, circling, inclines, hard surface, etc.).~~

~~3: Lameness is consistently observable at a trot under all circumstances.~~

~~4: Lameness is obvious at a walk.~~

~~5: Lameness produces minimal weight bearing.~~

98. Fitness to work

Fitness to work is ~~defined~~ at the state or condition of being physically sound and healthy, especially as a result of exercise and proper nutrition, to perform work well (Saunders Comprehensive Veterinary Dictionary, 3 ed. Elsevier). Various factors such as the animal's age, breed or physiological state (e.g. pregnancy) may influence its fitness to work.

Indicators of an equid's inability to carry out the work demanded of it include the presence of heat stress, lameness, poor body condition or weight loss, harness related wounds and aversive behavioural responses to, for example, harness or equipment fitting.

Article 7.X.5.

Recommendations

Articles 7.X.67. to 7.X.134. provide recommendations for measures applied to working equids.

Each recommendation includes a list of relevant outcome-based measurables derived from Article 7.X.4. This does not exclude other measures being used ~~where~~ when appropriate.

Nutrition, and feeding Feeding and provision of watering**1. Feeding**

Working equids Equids are natural grazers that eat little and small amounts often. Their natural diet is mainly grasses, which have a high roughage content. Horses in particular should be provided fed frequently with a predominantly fibre-based diet: either grass, hay or a suitable and safe alternative in order to mimic their natural feeding pattern as closely as possible.

Energy, fibre, protein, mineral (including trace minerals) and vitamin contents in the diet of working equids, their balance, safety, digestibility and availability are major factors determining the ~~traction~~-power of the animals, their growth and overall productivity and their health and welfare (FAO, 2014; Pearson, 2005).

Working equids should be provided with access to an appropriate quantity of balanced and safe feed, ~~and water which is safe (edible and with no biological, chemical and physical contaminants)~~ and of adequate quality to meet their specific physiological and working needs. In case of feed shortages, the *animal handler* should ensure that the period of reduced feeding is as short as possible and that mitigation strategies are implemented if welfare and health are at risk of being compromised (NRC, 2007).

If supplementary feed is not available, steps should be taken to avoid starvation, including *slaughter*, sale or relocation of the animals, or humane *killing*.

Working equids need some of their nutrient requirements to be met by fresh, green forage. For this purpose, owners-Owners and handlers should allow working equids them to forage whenever possible and allow for an adequate number of working breaks to allow the animals to eat (Heleski *et al.*, 2010). Cut green forage should be provided when grazing is not possible. Long fibre forage is important and should be provided when adequate as well as green forage and should also be provided even when green forage is not available. Long fibre hay is better than chopped forage to prevent ulcers.

Inadequate diets and feeding systems ~~that~~ may contribute to *diseases*, stress, discomfort or to abnormal behaviour in working animals equids and should be avoided. *Animal handlers* should be aware of the importance of the animals' nutritional needs and consult an expert for advice on ration formulation and feeding programmes when needed.

2. Provision of water

~~However, the-~~The most important nutrient for the welfare of working equids is water (Heleski *et al.*, 2010). Working equids need regular and adequate ~~supply and~~ access to palatable, safe water that meets their physiological, and work, ~~and environmental~~ requirements which may vary ~~(e.g. increased water need in hot weather).~~

Outcome-based measurables: behaviour, morbidity, mortality, and morbidity rates, behaviour, changes in weight and body condition and physical appearance, and fitness to work; ~~dehydration (as measured by drinking behaviour), signs of heat stress.~~

Article 7.X.7.

~~Shelter: homestead housing, workplace shelter, environmental considerations, protection from predators~~

Effective shelter should be provided for working equids both in the resting and working environments. Shelter should provide protection against adverse weather conditions and against predators and injury as well as good ventilation and the ability to rest comfortably. Resting space should be dry, clean and large enough for the equid to lie down, get up and turn around easily ~~comfortably and turn round~~.

1. Heat stress

Heat stress is a common condition in working equids ~~which are often working~~ in hot, humid environments and *animal handlers* should be aware of the risk that heat stress poses. Equid owners and handlers should be aware of how to prevent it through provision of appropriate shade or shelter along with sufficient drinking water and avoiding work at extreme high temperatures (The Brooke, 2013). Owners may also be trained in effective treatment of hyperthermia as timely veterinary assistance may not be available.

Behaviours which indicate heat stress include increased respiratory rate and effort; flared nostrils; increased head movement and lack of response to the environment (Pritchard et al., 2006)

Outcome-based measurables: ~~largely behavioural, morbidity, mortality, body condition and physical appearance and fitness to work including: increased respiratory rate and effort; flared nostrils; increased head movement and lack of response to environment (Pritchard et al., 2006).~~

2. Cold

Protection from extreme cold weather conditions should be provided when these are likely to create a serious risk to the welfare of equids, particularly of neonates and young animals and others that are physiologically compromised. Such a protection could be provided by extra bedding, blankets or natural or man-made shelter structures. Care must should be taken that, in an attempt to protect against the cold, ventilation and air quality are not compromised. Animal handlers should also ensure that equids have access to adequate feed and water during cold weather (The Brooke WEVM, 2013).

Behaviour which indicates suffering from cold stress includes shivering and huddling together.

Outcome-based measurables: behaviour, mortality rates, and body condition and physical appearance; ~~behaviour including abnormal postures and huddling.~~

3. Protection ~~against~~ from predators and injury

~~Good shelter is required to keep~~ Working equids should be kept safe from predators and from road accidents, which are a common occurrences if equids are left free to roam. If working equids are housed alongside other domestic livestock horned cattle, care ~~must should~~ be taken to protect them from injury by horned cattle (The Brooke WEVM, 2013). Enclosures used should be structurally sound and free of sharp edges, protrusions and other features that could cause injury.

Outcome based measurables: behaviour, morbidity (injury rate) and, mortality rates, body condition and physical appearance and lameness, behaviour.

Article 7.X.8.

~~Disease and injury management~~ Management: management of endemic disease, infectious disease, work-related wounds and injuries, planning for disease outbreaks, health service provision

1. Biosecurity and disease prevention

For the purpose of this chapter, biosecurity means a set of measures designed to maintain an equid population or herd at a particular health status and to prevent the entry or spread of infectious agents. Biosecurity plans should be designed, promoted with, and implemented by, stakeholders, commensurate with the desired health status of the equid population or herd and current disease risk. and for listed diseases, in accordance with relevant recommendations of the Terrestrial Code. These biosecurity plans should be promoted with stakeholders for effective implementation and should address the control of the major sources and pathways for spread of pathogens by:

- a) equids,
- b) other animals and disease vectors vectors,
- c) people,
- d) equipment (e.g. harnessing, handling and grooming equipment, feeding utensils),
- e) vehicles,
- f) air,
- g) water supply,
- h) feed.

Outcome-based measurables: morbidity rate, mortality rate, reproductive efficiency, changes in body condition and physical appearance.

2. Animal health management

Animal health management means a system designed to optimise the physical and behavioural health and welfare of the working equid. It includes the prevention, treatment and control of diseases and conditions affecting the individual animal and herd, including the recording of illnesses, injuries, mortalities and medical treatments where appropriate.

There should be an effective Effective national programmes for the prevention and treatment of working equid diseases and conditions require with clear roles and responsibilities to be defined for official and private animal health service personnel as well as for owners.

Owners and handlers of working equids should be aware of signs of ill-health, disease, distress and injuries. If they suspect the presence of disease and are not able to manage it, they should seek advice from veterinarians or other qualified persons.

~~Those responsible for the care of working equids should be aware of the signs of ill health or distress, such as reduced feed and water intake, changes in weight and body condition, changes in behaviour or abnormal physical appearance.~~

~~Working equids at higher risk of disease or distress will require more frequent inspection by animal handlers. If animal handlers suspect the presence of a disease or are not able to correct the causes of disease or distress they should seek advice from those having training and experience, such as veterinarians or other qualified advisers.~~

~~Vaccinations and other treatments administered to equids should be undertaken by people skilled in the procedures and on the basis of veterinary or other expert advice.~~

~~Animal handlers should have experience in recognising and managing chronically ill or injured equids, including those that are non-ambulatory.~~

Non-ambulatory working equids should have access to feed and water at all times ~~and be provided with concentrated feed at least once daily and hay or forage *ad libitum*.~~ They should not be transported or moved unless absolutely necessary for treatment or diagnosis. Such movements should be done carefully using methods that avoiding avoid dragging or excessive lifting.

When treatment is attempted, equids that are unable to stand up unaided and refuse to eat or drink should be euthanised in accordance with ~~according to the methods indicated in~~ Chapter 7.6., as soon as recovery is deemed unlikely.

Outcome-based measurables: morbidity ~~rate~~, mortality ~~rate~~, ~~reproductive efficiency~~, behaviour, body condition and physical appearance, ~~and changes in body condition.~~

~~Health is a major component of the welfare of an animal, as an animal in poor health is necessarily in a state of decreased well-being. Health may be assessed by:~~

a) The general appearance of the equid

~~This is a simple to evaluate and revealing parameter, it suffices to observe the posture, and demeanour of the animal, its body condition, and the appearance of its coat.~~

b) The absence of injury

~~A wounded animal is suffering. Pain from wounds decreases welfare. Injuries may result from inappropriate external factors; they may result from a poorly adapted environment (e.g. hobble, bit wounds or harness wounds); they may also be indicative of poor human-animal interactions.~~

e) The absence of disease

~~Evolution of diseases: disease patterns change with time and in working equids, overt clinical signs of infectious disease may often be difficult to detect. More commonly seen are multi-factorial syndromes or conditions involving multiple pathogens as well as environmental and management factors.~~

d) The effects of stress

~~Stress has a deleterious effect on the immune system; a high incidence of disease may be indicative of too much stress.~~

Article 7.X.9.

~~Handling and driving practice, handling facilities, personnel expertise and training, mutilations and other management practices~~

Management practices should be accomplished expertly and with the proper equipment and pain relief if appropriate. Painful husbandry procedures should be performed under the recommendation or supervision of a veterinarian.

Drivers and handlers should be trained to acquire good management practice skills.

Poor management practices include bad handling, inappropriate restraint such as too tight tethering or hobbling, the working of animals that are unfit or immature, poor housing that does not protect the equids from adverse weather conditions (~~heat stress~~), inadequate handling equipment, excessive number of working hours, being underfeeding, lack of access to water, lack of resting periods, working under heat stress, overloads overloading, beating or whipping and some traditional practices such as firing or, nostril slitting.

~~Some traditional beliefs encourage unsafe, non-effective and inhumane handling of working equids. Firing is carried out in the mistaken belief that it will cure problems such as lameness or respiratory disease and nostrils may be slit in an attempt to increase airflow in hot climates. Competent Authorities and veterinarians have a role in should educating educate owners and handlers of working equids to cease these unsafe, non-effective ineffective and inhumane inappropriate and ineffective practices and also in encouraging encourage good management and handling skills.~~

~~Education of veterinarians on working equid health, handling, use and management is currently inadequately covered in most veterinary curricula and training programmes for drivers and operators and this should be addressed if such people are to fulfil their responsibility to train others.~~

Working equids should not be kept confined indoors for long periods.

Working Equids equids should not be tethered or hobbled continuously permanently; they should not be hobbled for continuous periods of more than 12 hours in any 24-hour period. In situations where temporary hobbling is necessary, the animal handlers should ensure sufficient distance between the two hobbled legs is required to allow the equid to stand as naturally as possible and move without risk of injury.

When temporary tethering is necessary working equids should be able to lie down, and if tethered outdoors, turn around and walk. The tethering site should have a minimum radius of nine metres, and should be free from obstructions that may entangle the tether. Adequate water, and feed and frequent supervision should be provided; if necessary, action may should be taken if necessary by moving the animals to areas providing shade or shelter.

Mares in season should not be tethered ~~with near~~ stallions; mares about to foal or with a foal should not be tethered.

Equipment used to hobble ~~must should~~ be designed for ~~hobbling that purpose~~. The parts of the hobbles which are in contact with the skin should not be made from material that causes pain or injury (Burn *et al.*, 2008).

~~Harness injury should be prevented through daily checking of harness for damage and prompt, effective repair as necessary. Equids should be checked after work for signs of rubbing and hair loss and the source of any problems should be removed through maintenance and padding where required. Bits in particular should have no sharp edges and should be of the appropriate size for the animal.~~

Owners and users of working equids should be discouraged from using whips and harmful goads such as sticks. Instead humane training practices for equids should be promoted which focus on developing good driving practices.

Outcome based measurables: behaviour, morbidity, mortality, and morbidity rates, body condition and physical appearance, lameness and fitness to work (firing, harness and hobbling wounds and lameness), behavioural signs.

Article 7.X.10.

~~Behaviour and social interactions~~

~~Natural behaviours and social interactions differ between horses, mules and donkeys, and Animal handlers should be familiar a familiarity with normal and abnormal behaviour of each type of working equid is recommended in order to interpret the welfare implications of what is being observed.~~

Good Human-human-animal interaction should be positive in order not to compromise the welfare of the working equid.

Different natural behaviours and social interactions between horses, mules and donkeys should be taken into account.

~~Some behaviours may indicate an *animal welfare* problem but may not be uniquely indicative of one type of problem; they may be exhibited for a variety of different welfare causes. Depression, apathy, dullness and lethargy in equids which are usually active and alert can be indicative of a welfare problem. Changes in eating or drinking habits patterns may indicate a welfare problem, especially a decreased feed intake. This might also be an indicator of dental problems; poor feed quality or even feed contamination.~~

~~A variety of other behaviours may also be observed in working equids.~~

~~Behaviours indicating discomfort or pain such as:~~

- ~~— Head pressing, stable walking, weaving, teeth grinding, grunting, food dropping, and inability to eat normally. Such behaviours may indicate disease process, abdominal or cranial pain.~~
- ~~— Depression, circling, foot pawing, flank watching, inability to stand up, trashing, rolling. Such behaviour may indicate abdominal or other discomfort.~~
- ~~— Disturbance of ground or bedding. Such behaviours may indicate disease process, abdominal pain, malnutrition.~~
- ~~— Weight shifting, foot pawing, reluctance to move or abnormal movement. Such behaviours may indicate leg, foot or abdominal pain.~~
- ~~— Head shaking, discharges or avoidance of head contact. Such behaviours may indicate head, ear or ocular discomfort.~~
- ~~— Itching, rubbing, self-inflicted abrasions. Such behaviours may indicate skin problems, parasites.~~
- ~~— Non-specific pain in horses: restlessness, agitation and anxiety, rigid stance and reluctance to move, lowered head carriage, fixed stare and dilated nostrils, clenched jaw, aggression and reluctance to be handled. In donkeys these behaviours are more subtle and may not be recognised.~~
- ~~— Abdominal pain in horses: vocalisation, rolling, kicking at abdomen, flank watching, stretching. In donkeys, dullness and depression.~~
- ~~— Limb and foot pain in horses: weight shifting, limb guarding, abnormal weight distribution, pointing, hanging and rotating limbs, abnormal movement, reluctance to move. These signs are more subtle in donkeys, although repeated episodes of lying down are reportedly more indicative.~~
- ~~— Head and dental pain: headshaking, abnormal bit behaviour, altered eating; anorexia, quidding, food pecketing (Ashley *et al.*, 2005).~~

~~Behaviours indicating fear or anxiety such as:~~

- ~~— Avoidance of humans, especially when handlers or objects associated with their handling come close,~~
- ~~— A reluctance by the working equids to engage in their use for traction or transport or even a cessation and aggressive behaviour especially when fitting equipment or loading is undertaken.~~

~~Outcome-based measurables: behaviours, of discomfort or pain, sociability with humans and other equids, alertness, injuries, changes in weight and body condition and physical appearance, and fitness to work willingness to accept equipment and loading for work.~~

Article 7.X.11.

~~End of life issues: euthanasia, slaughter (including end of working life, abandonment)~~

Consideration should be given to end of life issues.

Abandonment of equids should be discouraged. The Competent Authorities should be responsible for developing and implementing guidance or legislation to prevent abandonment while taking steps to make provision for abandoned animals which would ensure their welfare.

When working equids need to be euthanasia or slaughtered or killed is practised in working equids, the general principles in the recommendations in Chapters 7.5 and 7.6. of the Terrestrial Code should be followed to avoid. Euthanasia is the humane method of ending an animal's life in the most pain-free and least stressful way possible. Otherwise the working equids may suffering a prolonged and painful death by abandonment, neglect or disease or acute, painful death such as being eaten by wild animals, or hit by a road vehicle.

Article 7.X.12.

Appropriate workloads

~~No equid under the age of four years should be worked. They are under developed and their bones have not had time to mature sufficiently to cope with the rigours of work. In horses upper fore and hind limb growth plates do not close until four years of age and spinal ones not until five years of age. Equids continue to develop until over the age of five years so consideration should be given, according to workload, as to when working life commences. In general this should be three years of age or more but never less than two years of age. Animals that are subjected to excessive work too young in life will usually suffer from leg and back injuries in later life, resulting in a much-reduced working life.~~

~~No Mares should not be ridden or worked within three months before and after of foaling.~~

Special considerations should be given to old animals.

Animals should work a maximum of six hours per day and should be given at least one, preferably two, full day's rest in every seven-day period (preferably two). Consideration should be given to the animal's physical condition and age and the work load should be adjusted accordingly.

Consideration should be given to the weather conditions (work should be reduced in very hot weather). Breaks should be given at least every two hours and ~~fresh~~ drinkable water should be provided available.

All animals should receive sufficient good quality feed corresponding to their individual requirements. ~~Fresh~~ drinkable water and roughage should be available to aid digestion.

Sick or injured animals should not be worked. Any animal that has been under veterinary treatment should not be returned to work until advised by ~~from~~ the ~~veterinarian is received~~.

~~Animals should be in good health and fit to do the work that is required of them.~~

Outcome based measurables: behaviour, body condition and physical appearance, ~~dehydration~~, handling response, ~~gait~~ and lameness and fitness to work.

Article 7.X.13.

Farriery and harnessing**1. Farriery**

Owners and handlers should routinely clean and check the hooves of the working equid before and after work.

Hoof trimming and shoeing of working equids should only be performed by persons with the necessary knowledge and skills.

Equids are shod for two main reasons; to prevent hoof wear and to improve performance. Many equids cope well without shoes and, if they are coping well, are best unshod. However, poor hoof care and farriery predisposes the working equid to injury and infection, and can result in changes to the size, shape and function of the hoof. Untreated abnormalities of the foot can create long term problems in other parts of the leg due to change in gait and weight bearing. Such problems could include:

- a) Conditions of the hoof wall and horn producing tissues: hoof wall defects, such as cracks that involve the sensitive tissue; laminitis, laminar tearing (local, due to hoof imbalance), separation or inflammation of the sensitive laminae from the insensitive laminae; abscess formation; contusions of the hoof causing bruising or corn formation; neoplasia, and pododermatitis (thrush or canker).
- b) Conditions of the third phalanx: third phalanx problems include fractures of the coffin bone, deep digital flexor insertional tendinopathy, pedal osteitis (generalised or localised inflammation of the bone), and disruption of the insertions of the collateral ligaments, cyst-like lesion formation, and remodeling disease.
- c) Conditions of the podotrochlear region: these include distal interphalangeal synovitis or capsulitis, deep digital flexor tendinitis, desmitis of the impar (distal navicular ligament) or collateral sesamoidean ligaments, navicular osteitis or osteopathy, and vascular disease of the navicular arteries, and navicular fractures.

These conditions are all characterised by pain that can be localised in the hoof (Turner, 2013).

Outcome based measurables: Behaviour, body condition and physical appearance, lameness and fitness to work.

2. Harnessing

For the purpose of this chapter, harnessing includes all parts of the driving harness, saddle, bridle and bit. They work to control the working equid, act as a braking system when pulling a cart, hold loads in place and transfer power to attached carts or agricultural implements.

A properly designed, well-fitted and comfortable harness allows the working equid to pull the equipment to the best of its ability, efficiently and without risk of pain or injuries. A poorly designed or ill-fitted harness can cause injury and discomfort to the animal as well as inefficient transfer of power from the animal to the implement or cart and can also be a danger for the handler and other road users.

Harness injury should be prevented through by using properly fitted and adjusted harness which is checked daily for damage and repaired promptly as necessary. Equids should be checked after work for signs of rubbing and hair loss and the source of any problems should be removed through maintenance and padding where required.

~~There should be enough clean padding on harnesses so the animals do not have to work with open sores.~~

~~A good harness- Harness; does should not have sharp edges which could cause injury to the equids; should fits well so that it does not cause wounds or chafing caused by excess movement; is should be smoothly shaped or padded so that loads imposed on the working equids' body bodies are spread over a large area; and does should not impede the animal's movement or normal breathing or restrict blood supply. Good harnessing also maximizes the efficiency of transfer of draught energy from animal to load so that minimum effort is required by the working equid.~~

Carts should be maintained to ensure accurate balancing and appropriate tyre pressure. For draught animals equids the use of swingletrees is recommended so as to balance the pull and thus as a result reduce the risk of sores from the harness.

Owners are responsible for should ensuring ensure that effective welfare-friendly harnessing and is accompanied by good riding and driving practices.

Bits should be ideally of a simple type (such as a straight bar snaffle), depending on work, but should always be smooth, appropriately sized for the equid and kept clean. Inappropriate materials such as thin cord or wire should ~~not~~ never be used as bits or to repair bits.

~~Wounds caused by poorly maintained or inappropriate harnessing are common in working equids and attention should be paid to prevention of harness related injuries. (Pearson *et al.*, 2003).~~

Outcome based measurables: ~~lesions at sites of harness abrasion including abrasion of eye area associated with blinkers, lesions at lip commissures or other parts of the mouth associated with biting; lesions on tail, hindquarters, hind limbs or hocks associated with contact with cart. Behaviour, body condition and physical appearance, lameness and fitness to work.~~

References

- Ashley F. H., Waterman-Pearson A. E. and Whay H. R. (2005). Behavioural assessment of pain in horses and donkeys.: application to clinical practice and future studies. *Equine vet. J.* (2005) 37 (6) 565–575.
- Burn C.C., Pritchard J.C., Farajat M., Twaissi A.A. & Whay H.R. (2008) Risk factors for strap-related lesions in working donkeys at the World Heritage site of Petra, Jordan. *The Veterinary Journal* 178, 261–269.
- Burn C.C., Dennison T.L., Whay H.R. (2010). Environmental and demographic risk factors of poor welfare in working horses, donkeys, and mules in developing countries. *Vet J.* 2010 Dec;186(3):385–92.
- Carroll C. L. and Huntington P. J. (1988). Body condition scoring and weight estimation of horses, *Equine Veterinary Journal* 20(1), 41–45.
- ~~Department of Agriculture and Rural Engineering, University of Venda for Science and Technology, South Africa, PO Box 12832, Onderstepoort, 0110, South Africa SBN 0-907146-15-7.~~
- Dawkins M S. (2006). A user's guide to animal welfare science. *Trends in Ecology and Evolution.* vol 21. N° 2.
- FAO. (2014) The role, impact and welfare of working (traction and transport) animals. *Animal Production and Health Report.* No. 5. Rome.
- Heleski C.R., Mclean A.K. and Swanson J.C. (2010). Practical methods for improving the welfare of horses, donkeys and other working draught animals in developing countries. In: Grandin, T. (ed.) *Improving Animal Welfare: a Practical Approach.* CAB International.
- ~~<http://www.taws.org/harnessguidelines.htm> World Association for Transport Animal Welfare and Study.~~
- ~~http://www.australiananimalwelfare.com.au/app/webroot/files/upload/files/AUST_HORSE_WELFARE_PROTOCOL_FINAL_2_2011_2.pdf~~
- ~~[http://www.dpiw.tas.gov.au/inter.nsf/Attachments/LBUN-7T32N3/\\$FILE/Animal%20Welfare%20guidelines%20-%20Horses.pdf](http://www.dpiw.tas.gov.au/inter.nsf/Attachments/LBUN-7T32N3/$FILE/Animal%20Welfare%20guidelines%20-%20Horses.pdf)~~
- Kay G., Pearson R.A., Ouassat M. (2004) Estimation of the liveweight of working mules in Morocco from their body measurements. *Vet Rec.* 2004 Jan 17;154 (3):85–8.
- National Research Council (NRC). (2007) Donkeys and other equids. In: *Nutrient Requirements of Horses.* The National Academy Press. Washington, DC.
- Pearson R.A., Ouassat M. (1996). Estimation of the liveweight and body condition of working donkeys in Morocco.
- Pearson R.A. (2005). Nutrition and feeding of donkeys. In: Matthews, N.S. and Taylor, T.S. (eds.) *Veterinary Care of Donkey.*
- ~~Pearson R.A., Simalonga T.E and Krecok R.C. (2003). *Harnessing and hitching donkeys, mules and horses for work.* CTVM. University of Edinburgh. ISBN 0907146157.~~
- Pritchard J.C., Barr A.R.S. & Whay H.R. (2006). Validity of a behavioural measure of heat stress and a skin tent test for dehydration in working horses and donkeys. *Equine Veterinary Journal* 38, 433–438.

- ~~Pritchard J.C., Burn C.C., Barr A.R.S. & Whay H.R. (2008) Validity of indicators of dehydration in working horses: a longitudinal study of changes in skin tent duration, mucous membrane dryness and drinking behaviour. Equine Veterinary Journal 40(6), 558–564.~~
 - Turner (2013): Examination of the Equine Foot. In Proceedings of the AAEP Focus on the Foot - AAEP Focus Meeting. AAEP web site
 - The Brooke (2014). Invisible Helpers; Women's views on the contributions of working donkeys, horses and mules to their lives. Report published by The Brooke.
 - The Brooke. (2013). The Working Equid Veterinary Manual (WEVM), Whittet Books Limited, U.K.
 - ~~World Society for the Protection of Animals. (Year) Guidelines and Licensing Regulations for: Riding schools, equine tourist establishments, carriage operators and owners.~~
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